Instruction Manual

Pronto EC & Pronto TDS

HI 983303, HI 983304, HI983306
HI 983307, HI983308

On-line, Waterproof EC-TDS meters with Alarm



HANNA instruments
www.hannainst.com

WARRANTY

These meters are warranted for two years against defects in workmanship and materials when used for their intended purpose and maintained according to instructions. **The probes are warranted for a period of six months.** This warranty is limited to repair or replacement free of charge.

Damages due to accident, misuse, tampering or lack of prescribed maintenance are not covered.

If service is required, contact the dealer from whom you purchased the instrument. If under warranty, report the model number, date of purchase, serial number and the nature of the failure. If the repair is not covered by the warranty, you will be notified of the charges incurred. If the instrument is to be returned to Hanna Instruments, first obtain a Returned Goods Authorization Number from the Customer Service department and then send it with shipment costs prepaid. When shipping any instrument, make sure it is properly packaged for complete protection.

Hanna Instruments reserves the right to modify the design, construction and appearance of its products without advance notice.

Dear Customer,

Thank you for choosing a Hanna product. This manual will provide you with the necessary information for correct operation of the meter. Please read it carefully before using the meter. If you need additional technical information, do not hesitate to e-mail us at tech@hannainst.com.

These instruments are in compliance with the CE directives.

PRELIMINARY EXAMINATION

Remove the instrument from the packing material and examine it carefully. If any damage has occurred during shipment, immediately notify your Dealer or the nearest Hanna Customer Service Center.

The meters are supplied with:

- Conductivity probe (fixed):
  HI 7631/2 for **HI 983304**
  HI 7632/2 for **HI 983307** and **HI 983308**
  HI 7634/2 for **HI 983303** and **HI 983306**
- Calibration screwdriver
- 12 Vdc power adapter and instructions

Note: Conserve all packing material until the instrument has been observed to function correctly. Any defective item must be returned in its original packing.

GENERAL DESCRIPTION

These instruments are specially designed to meet the needs of simple continuous monitoring of conductivity or TDS.

The housing has been completely sealed against vapors and humidity with IP54 rating.

You can simply hang the meter right above the sample to be tested for continuous measurement.

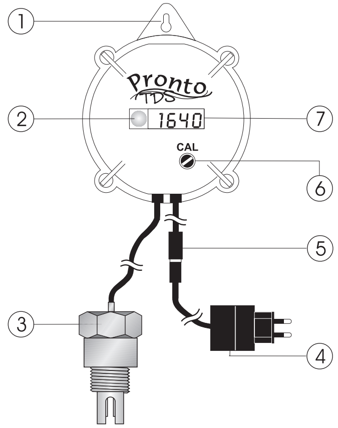
All the meters come with a probe that compensates for the temperature variation automatically. The probe is easy to clean and requires little maintenance.

You can even select your own setpoint and be alerted of an abnormal situation with a flashing LED alarm.

Measurements are highly accurate and the meters can be calibrated at one point.

You no longer need to worry about battery changes either: the unit runs without interruption on 12 VDC power supply.

FUNCTIONAL DESCRIPTION



1. Molded eye
2. Alarm LED
3. Probe (fixed)
4. 12 Vdc power adapter
5. Power supply connector
6. Calibration trimmer
7. Liquid Crystal Display

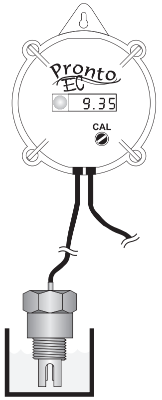
SPECIFICATIONS

	HI 983303
Range	0 to 1990 µS/cm
Resolution	10 µS/cm
Setpoint	200 to 1600 µS/cm
Hysteresis	+100 µS/cm over setpoint
Alarm	LED blinks when the EC value is 100 µS/cm higher than setpoint
Probe	**HI 7634/2** (fixed)
	HI 983304
Range	0.00 to 19.99 µS/cm
Resolution	0.01 µS/cm
Setpoint	1.00 to 5.00 µS/cm
Hysteresis	+1.00 µS/cm over setpoint
Alarm	LED blinks when the EC value is 1.00 µS/cm higher than setpoint
Probe	**HI 7631/2** (fixed)
	HI 983306
Range	0 to 1990 ppm
Resolution	0 ppm
TDS Factor	0.5
Setpoint	200 to 1600 ppm
Hysteresis	±100 ppm around setpoint
Alarm	LED blinks when the TDS value is outside hysteresis range
Probe	**HI 7634/2** (fixed)
	HI 983307
Range	0.00 to 9.99 mS/cm
Resolution	0.01 mS/cm
Setpoint	0.70 to 3.50 mS/cm
Hysteresis	±0.20 mS/cm around setpoint
Alarm	LED blinks when the EC value is outside hysteresis range
Probe	**HI7632/2** (fixed)
	HI 983308
Range	0.00 to 9.99 ppt
Resolution	0.01 ppt
TDS Facto	0.5
Setpoint	0.70 to 3.50 ppt
Hysteresis	±0.20 around setpoint
Alarm	LED blinks when the EC value is outside hysteresis range
Probe	**HI 7632/2** (fixed)
	COMMON SPECIFICATIONS
Accuracy (@ 25°C/77°F)	±2% f.s.
Typical EMC Deviation	±2% f.s.
Temperature Compensation	Automatic, 5 to 50°C (41 to 122°F) with ß=2.4% (**HI 983304**) or ß=2% (**HI 983303/6/7/8**)
Calibration	Manual with one trimmer
Casing	IP54
Power Supply	12 Vdc adapter (included)
Dimensions	86 x 110 x 43 mm (3.4 x 4.3 x 1.7”)
Weight	215 g (7.6 oz.)

OPERATIONAL GUIDE

TAKING MEASUREMENTS

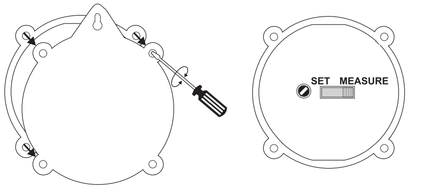
- Turn the meter on by connecting the 12 Vdc power adapter to the meter and to the mains.
- Immerse the probe in the solution, making sure that the metal pins are completely submerged.
- The LCD will show the EC or TDS value. Any initial variation may be due to temperature compensation and the fact that the probe is adjusting itself to the new sample. Allow the reading to stabilize and the meter will start continuous monitoring.



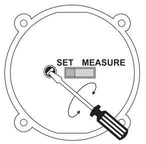
ADJUSTING THE SETPOINT

These meters allow you to select the desired setpoint value and be alerted by a visual alarm (red LED) when an abnormal situation arises.

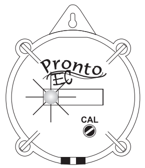
- To access the MEASURE/SET switch, unscrew and remove the rear panel and gasket. Then move the switch to the left (SET Mode).



- With a small screwdriver adjust the setpoint trimmer to display the desired setpoint (within the specified range; see Specifications table).



- **Move back the switch to the right (MEASURE Mode).**
- Close the meter with the rear panel, while making sure the gasket is in place before tightening the screws.
- Whenever the reading varies from the setpoint more than the hysteresis specified for your model, the red alarm LED will blink.



PROBE MAINTENANCE

To minimize clogging and provide longer life for the probe, it is recommended to clean it often or at least once a month.

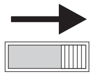
- Immerse the tip of the probe in **HI 7061** Cleaning Solution for one hour.
- If a more thorough cleaning is required, brush the metal pins with very fine sandpaper.
- After cleaning or when not in use, rinse the probe with tap water.

Note: **HI 983304** is supposed to be used for pure water applications and, therefore, probe cleaning is not required.

CALIBRATION

For the greatest accuracy, frequent calibration of the instrument is recommended.

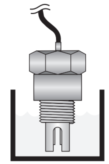
- Turn the meter on and make sure that the MEASURE/SET switch is on the MEASURE position.



- Pour a small quantity of the proper calibration solution in a beaker. If possible, use plastic beakers to minimize any EMC interference.



  Use the 1413 µS/cm solution at **HI 983303**, 1382 ppm for **HI 983306**, 5.00 mS/cm for **HI 983307**, or 6.44 ppt for **HI 983308**.
- Immerse the probe in the solution, making sure that the metal pins are completely submerged.



Note: In order not to affect the accuracy of measurements, it is important that the probe body does not touch nor stand close to the side walls of the beaker.

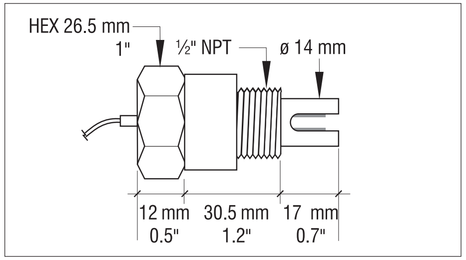
- Wait for a couple of minutes for thermal equilibrium to be reached, then tap the probe gently on the bottom, then shake it, to make sure no air bubbles have remained trapped.
- With the supplied screwdriver, adjust the calibration trimmer until the display shows the calibration solution value: 1410 µS (**HI 983303**), 1380 ppm (**HI 983306**), 5.00 mS (**HI 983307**) or 6.44 ppt (**HI 983308**).
- The calibration is now complete and the instrument is ready for use.

The instrument should be recalibrated at least once a month and after performing probe cleaning procedure.

Note: **HI 983304** is supposed to be used for pure water applications and, therefore, does not need calibration.

ACCESSORIES

HI 7631/2* Flow-thru conductivity probe with ½" NPT thread, ATC & 2 m (6.6') cable (**HI 983304**)
HI 7632/2* Flow-thru conductivity probe with ½" NPT thread, ATC & 2 m (6.6') cable (**HI 983307/8**)
HI 7634/2* Flow-thru conductivity probe with ½" NPT thread, ATC & 2 m (6.6') cable (**HI 983303/6**)



HI 70031P 1413 µS/cm calibration solution, 20 mL sachet (25 pcs)
HI 70032P 1382 ppm calibration solution, 20 mL sachet (25 pcs)
HI 70038P 6.44 ppt calibration solution, 20 mL sachet (25 pcs)
HI 70039P 5.00 mS/cm calibration solution, 20 mL sachet (25 pcs)
HI 70031L 1413 µS/cm calibration solution, 500 mL bottle
HI 7039L 5.00 mS/cm calibration solution, 500 mL bottle
HI 7061L Probe cleaning solution, 500 mL bottle
HI 710005 12 Vdc power adapter, US plug
HI 710006 12 Vdc power adapter, European plug
HI 710012 12 Vdc power adapter, Australian plug
HI 710013 12 Vdc power adapter, Southern Africa plug
HI 710014 12 Vdc power adapter, UK plug

* To be replaced by authorized technical personnel only

CE DECLARATION OF CONFORMITY


HANNA instruments

CE

DECLARATION OF CONFORMITY

We

Hanna Instruments Italia Srl
via E.Fermi, 10
35030 Sarmeola di Rubano - PD
ITALY

herewith certify that the EC/TDS meters:

HI 983303 HI 983304 HI 983306
HI 983307 HI 983308 HI 983309

have been tested and found to be in compliance with the following regulations:

IEC 801-2	Electrostatic Discharge
IEC 801-3	RF Radiated
IEC 801-4	Fast Transient
EN 55022	Radiated, Class B
EN 61010-1	User Safety Requirement

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D.Volpato - Engineering Manager
On behalf of
Hanna Instruments Italia S.r.l.

Recommendations for Users

Before using these products, make sure that they are entirely suitable for the environment in which they are used. Operation of these instruments in residential areas could cause unacceptable interferences to radio and TV equipment.

The metal band at the end of the probe is sensitive to electrostatic discharges. Avoid touching this metal band at all times. During operation, ESD wrist straps should be worn to avoid possible damage to the probe by electrostatic discharges.

Any variation introduced by the user to the supplied equipment may degrade the instrument's EMC performance.

To avoid electrical shock, do not use these instruments when voltages at the measurement surface exceed 24 Vac or 60 Vdc.

Use plastic beakers to minimize any EMC interferences.

To avoid damages or burns, do not perform any measurement in microwave ovens.